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SPECIAL BULLETIN NO. 15.

JULY, 1919.

MEASLES

A Common Disease of Childhood

That Causes Great and Unnecessary Loss of Life

That Brings Suffering to Thousands of Little Ones

That May Lead to Very Serious Complications

READ HOW TO AVOID IT



Published at Helena, by the State Board of Health.

Every Mother Should Very Carefully Read this Bulletin

This Bulletin will be mailed to any person in Montana upon request, mailed
to the Secretary of the State Board of Health at Helena.

PUBLICATIONS OF THE STATE BOARD OF HEALTH.

For specific instructions as to cause, methods of prevention and care of communicable disease write for the following:

Bulletins on Communicable Disease:

- Diphtheria.
- Infantile Paralysis.
- Measles.
- Pneumonia.
- Scarlet Fever.
- Smallpox.
- Tuberculosis.
- Typhoid Fever.

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- Set B—For Public Health Officers and Business Men.
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- Set D—For Parents of Children.
- Set E—For Girls and Young Women.
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- Study Course on Public Health for Use of Women's Clubs.
- One and Two Room Rural School Buildings.
(State College Bulletin No. 11.)
- State Public Health Laws and Quarantine Regulations.
- Water and Sewage Laws and Instructions.
- Vital Statistics Laws and Regulations.
- Food and Drug Laws and Regulations.
- Hotel Laws and Regulations.

These and the Monthly Bulletin of the Montana State Board of Health sent to any citizen of the state on request.

Address W. F. COGSWELL, M. D., Sec'y.
State Board of Health,
Helena, Montana.

MEASLES*

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ST. PAUL

WHAT IS MEASLES?

("Measles is one of the quite unnecessary diseases.")

Measles is the common disease we all know too well, showing at first symptoms like a severe cold, with high fever and red eyes; later, a blotchy rash.

(German measles is a much milder disease; but it is not merely mild measles, as many people think. It is a different disease entirely.)

Measles is a very serious infectious disease, not only in itself, but also in the bronchitis, pneumonia, and even tuberculosis which often follow it; also because of the injuries to the kidneys, ears, etc., which measles (as well as other children's diseases) leave behind them to "come back" at the patient years and years later (see p. 8).

HOW DO YOU CATCH MEASLES?

("Measles is spread chiefly from the sick person direct to the well person; sometimes through milk.")

The cause of measles is, we have every reason to believe, a certain kind of germ which escapes from the measles patient's mouth or nose; and wherever the material from the patient's mouth or nose goes, this germ goes with it.

The disease may be caught merely by entering the room where the patient is. A child (or grown person) who has not had measles will usually take it if he merely goes near where there is anyone who has measles. Why?

Because the germs are in the watery matter which runs from the patient's nose, and in the spit of the

* This pamphlet is one of a series on Public Health issued by the Council on Health and Public Instruction of the American Medical Association. Other pamphlets can be secured from the Secretary of the State Board of Health or from the American Medical Association, 535 N. Dearborn St., Chicago.

patient; and when the patient sneezes or coughs or talks, he throws out tiny drops of the watery material from the nose and of the spit from the mouth into the air; then everyone who is near by takes these little drops into his nose or mouth or eyes also.

The disease may be caught also by shaking hands with one who has measles. Why? Because the patient, in blowing his nose, or in holding his hand before his face when he sneezes or coughs, or in putting his fingers to his lips or nose or eyes, smears some of the watery matter from his nose or eyes or of the spit from his mouth on his fingers—very little perhaps, but enough to make trouble, for the germs of the disease are in these discharges. When you shake hands with him or handle things he has handled, etc., you are likely to get these germs on your hands. That alone would not give you measles, remember, for the germs must enter, as a rule, into your nose or mouth or eyes in order to give you the disease; but they usually *do* get into your mouth or nose or eyes from your hands (unless you wash them right away), because you usually *do* put your hands to your mouth or nose or eyes, or at least touch your fingers to your lips, very many times every day.

③ *You may get the disease from the measles patient's towel.* Why? Because he has wiped his lips and eyes with it; and when you wipe your lips with the same towel, you take on your lips some of what he left on the towel; or if you wipe your hands on the towel, you take off what he left on it, and then you put your hands to your mouth or eyes or handle your food with your hands and then eat the food.

④ *You may get the disease from the patient's cup or spoon, or other eating utensil.* Why? Because he has put his spit on the edge of the cup or bowl of the spoon, in using them. If you put these to your lips, your lips take off some of the material he left there; while if you merely handle the cups or spoon, etc., without putting them to your lips, you still may get on your hands the spit that the patient's hands put there; and when next you put your hands to your lips, you may carry the spit to your lips also.

Persons who have had measles seldom take it again. But before deciding that a certain child is "all right, because he has had it already," be *sure* that the child

really had *measles*, not German measles. German measles does not protect against measles, nor measles protect against German measles.

Can you catch measles from people who are with measles cases but not sick themselves?

Yes; but only for a short time after they have been with the patient, because the measles germs die very quickly once they leave the sick person's body.

Suppose the mother is taking care of her child with measles; if she gets the child's spit on her hands and goes right away to another child and puts her fingers to that child's lips or handles its spoon or cup, etc., or its food, she may get the germ of the disease into its mouth while the germ is still alive; so also if she kisses the measles child and then right away kisses the well child she is very likely to carry the spit from one to the other on her own lips; but if she washes her hands and lips thoroughly, before she goes from one child to the other, there is very little danger of carrying the germs from one to another. The other people in the house, if they are not taking care of or visiting the measles case, very, very seldom, if ever, carry the disease except when they become sick with measles themselves. A mother should never kiss a well child while attending a sick one.

Children who have had measles before may safely go to school from a house where measles exists, *IF* (remember that *IF*) *IF* they wash their hands and faces carefully first; (provided of course, they are kept away from the measles case while they are at home).

Children who have not had measles cannot safely go to school from a house where measles exists even if they wash their hands and faces well; not because they are likely to carry the germs from the children at home who are already sick; but because they are almost certain to become ill themselves. The moment they become ill with measles, they can give the disease to others from their own bodies; and, if they are attending school, they are as likely to become ill while at school as anywhere else and so give the disease to other children before anyone notices that they are ill.

HOW CAN YOU AVOID CATCHING MEASLES?

("Measles is spread chiefly from the sick person direct to the well person; sometimes through milk.")

First and best, *by never going near anyone who has measles.*

This does not mean only that you should avoid those persons who have the rash out; but it means that you should not go near any one who is "coming down" with measles, even before the rash comes out; or the persons who are not yet well from the disease, even if the rash has faded and gone.

Second, *you must not handle anything such patients have recently handled* or used, unless you instantly wash your hands thoroughly, before you put your own fingers to your own mouth or nose, or touch anything that you may afterward put to your own mouth or nose.

This avoiding of measles sounds easy; but remember that you often do not guess that a certain person has measles until the rash comes out; and in the meantime you may be with that person and so catch the disease; or you may meet at school, at a lecture, or in a street-car, or in church, someone you know nothing about at all, who is coming down with measles or getting better from measles.

Remember that the longer you can put off having it, the better, even if you must have measles sooner or later under our present conditions (because so little care is taken to keep measles patients away from well people). The younger the children are when they have measles, the more likely they are to die, and the more likely they are to suffer severe effects from it even if they don't die. The safest age to have measles is at 15 years old. The most fatal age is from 2 to 5 years old; *(20 per cent. of those who have measles when under 3 years old die)*. So, even if you think it is hopeless to save your children from measles altogether, try to save them as long as possible from having it.

Can you not escape measles (and all other infectious diseases) by keeping yourself in good health? Is it not the sickly and weak only who suffer from these diseases? Why take all these precautions to avoid the measles germ? Why not keep your body so strong by exercise, good food and healthy living that the measles

germ will not have any chance to grow if they do enter the body?

("Measles infects strong and weak, robust and sickly, all alike.")

Think over all the children you know that have had measles—the children of your friends and neighbors, your own children perhaps, even yourself and your own brothers and sisters. Count them up. How many were weaklings and how many were strong and well at the time they were taken down with measles?

Did you ever know any child, however strong and well, who did not take measles if exposed to it? Yes, you remember a nursing baby who escaped, although all his brothers and sisters had it. That is true—nursing babies, whether strong or weak, usually escape, especially if less than six months old. But did you ever know anyone else to escape if they had not had measles, and if they were exposed to it? Yes, once in a great while, people are born with a peculiar condition called "immunity from measles" so that they will not take this disease. But these are rare exceptions and these immune persons escape not because they are robust, but only because they are immune. Ninety-nine per cent., at least, of all the people born into this world take measles the first time they receive the measles germs into their bodies, without regard to robustness or weakness.

Take it the other way about. If a person, robust or weakly, has had measles, he will not as a rule catch it again. A weakling who has had measles will not catch it again, any more than will a robust person who has had it. Why? Because the person who has had measles once is, as a rule, immune afterwards. (A great many people think they have had measles twice; but usually they had measles only once and German measles the other time.)

HOW CAN YOU TELL THAT A CHILD HAS MEASLES?

No one, unless he has carefully studied a great many cases of all diseases, can really be sure which one a patient has; so the only way for most people to be sure is to *send for an expert physician* and leave it to him to decide.

Do not be disappointed if he will not say at once, for the more expert he is the more he will be careful to

make sure before he decides. But perhaps the physician cannot come promptly and you want in the meantime to know what to do.

WHAT TO DO IF YOU THINK A CHILD HAS
MEASLES

The very first thing to do, without waiting to find out just exactly what disease the child has, is to *take him into a room* by himself, away from the other children, and to take into that room all that the sick child has been playing with or handling; all towels or table napkins or cups or spoons or other things the child has been using that day; all toys, especially mouth organs or trumpets or pea shooters or other things that he has had in his mouth. Then shut the door.

Keep the other children out; and wash your hands and lips every time you leave the room, just after you leave it and before you do anything else; before you put your hands to your own lips or touch anything, even the outside door-knob on the door where the child is. (The inside door-knob is in the patient's room and therefore does not matter.) If you *do* these things—not merely *mean* to do them and then forget—you will have the danger limited to that room, whatever disease the child may have, from the moment you begin the precautions. *The other children* may have taken the germs from the sick one before you noticed he was sick; and as you don't know yet what the sickness may turn out to be, the other children should have their faces and hands thoroughly washed and be kept at play *in their own premises* until the doctor comes; but they must not be sent over to the neighbors nor to school. Especially don't set the children to watch the sick one while you go out, even for a short time.

If there is an infectious disease in the house, it is just as infectious before the doctor sees it as afterwards; and the only common sense thing to do is to consider that it is infectious until the doctor says that it is not, instead of the other way.

No one who is taking care of a measles case or of anyone who is likely to come down with this disease or of anyone just recovering from it should have anything to do with handling food for others, especially milk; so *don't get supper for the other children* while you are waiting for the doctor to come.

CHIEF STAGES OF MEASLES

Incubation period—

When a person who has not had measles receives the germs of measles into his or her mouth or nose, no effect can be seen or felt usually until nine or ten days have passed.

This interval between the day when the germs enter the body and the day when the first symptoms appear is called the incubation period.

Prodromal period—

When the first symptoms of measles show themselves, they continue and become worse for *about four days* before the rash appears (although they often "let up" about the third day).

This interval between the first symptoms and the rash is called the prodromal period.

Almost all infectious diseases have a prodromal period as well as an incubation period, and the lengths of both periods vary also in different diseases. In measles the prodromal period is three or four days. This means that if the patient takes sick, say this morning, then if he has measles it may be out late on the day after tomorrow, but more likely on the next day or even the day after.

In measles the symptoms before the rash appears are as a rule somewhat severe: there is apt to be loss of appetite, fever and headache; (vomiting is not frequent in measles); the eyes are red, watery, with swollen lids, and the child complains that light hurts the eyes; the nose is "stuffed up" and often "runs," and the throat "is sore" and there is apt to be some hoarseness and even coughing. The patient is usually constipated, drowsy and irritable. In brief, the patient looks and acts as if he had an exceedingly bad cold in the head and some in the lungs.

What is the rash like?—

In measles the rash appears on the back and face (beginning often behind the ears, at the roots of the hair, on the forehead and on the neck) and spreads rapidly: it consists of bluish red spots, raised slightly and running into each other in a blotchy sort of way. With care you may feel the rash with the tips of the fingers, for it stands out from the surface, and the

elevations with the depressions between feel like tiny hills and valleys.

WHAT ARE THE DANGERS TO THE PATIENT?

("Fore-warned is fore-armed.")

There is a long list of things that the unfortunate child may have as a result of the attack.

Soon after:

- (a) weak eyes
- (b) bronchitis
- (c) broncho-pneumonia
- (d) tuberculosis
- (e) laryngitis
- (f) stomatitis
- (g) noma
- (h) indigestion and ileo-colitis
- (i) middle ear disease
- (j) meningitis

Long after:

- (a) chronic kidney affections
- (b) arterio-sclerosis
- (c) nervous affections

At the present time there are *more deaths from measles than from smallpox*; but besides the deaths from measles itself, there are still more deaths from diseases that result from measles. For each 100 deaths from measles there are 300 deaths from broncho-pneumonia, etc., following measles; and about 750 more children are injured by other after-effects. The measles case therefore requires every care during and after the attack in order to avoid these troubles. Isn't it far better not to have measles at all?

GENERAL DIRECTIONS FOR CARE OF PATIENT

The measles patient, like every other sick child, should be well cared for. This means the room should be at 60 F. and 60 relative humidity (ask the doctor about this); but there must be no draught and no chilling of the patient; no running around with bare feet on cold floors (to go to the toilet, especially if the toilet is outdoors); no overheating of the room for a time until the patient sweats and then cooling off until the patient shivers; no hot drinks or extra heavy wraps or hot baths "to bring out the rash." These home treatments are responsible for many of the troubles which follow measles. The instructions of the physician must be followed.

But before the physician comes, while he is there, and after he leaves, remember that the disease will not and cannot spread to others unless the discharges of the patient's nose, mouth and perhaps eyes spread to others. Therefore, *to take care of these discharges* from the nose, the mouth, and the eyes, put them into a paper bag and burn the whole thing when it is filled up, washing the hands always immediately after handling them. If the patient spits up material from the throat let him spit into a piece of paper or a piece of rag, and then wash his hands. But above all, remember to keep all infection in the room where the patient is; and therefore, *never let anything go out of the room*, pillow cases, sheets, towels, bed clothing, night robes, plates, cups, saucers, spoons, toys, or anything else the patient has used, until they have been sterilized by boiling or by placing them in 5 per cent. carbolic acid solution or in 1/1,000 bichloride solution; (ask the physician about this also).

HOW CAN YOU TELL WHEN A MEASLES PATIENT
MAY SAFELY GO BACK TO SCHOOL OR MIN-
GLE WITH OTHER CHILDREN WHO
HAVE NOT HAD MEASLES?

This can only be done by careful examination of the nose, mouth, eyes and ears. The patient must be quite restored to normal so far as these parts are concerned; that is, all inflammation must have disappeared, before he is safe from danger of infecting others. Only a physician is competent to decide these points. You cannot safely decide this, as many people do, by waiting merely until the scaling of the skin ceases.

The scaling or skinning or desquamation which follows measles is usually slight, the scales being small and light. Many people dread the scales as dangerous to others, but these are not really to be feared; while people usually overlook the sore throat that "hangs on" sometimes after the scales are gone. It is the sore throat, the discharging nose, ears, eyes, etc., that are really dangerous as a means of spreading measles. These are the things to look for in suspicious cases.

IN CASE OF DEATH

In case of death from measles the funeral should be private; not because of danger from the dead body, whose activities have ceased forever; but from those who cared for the sufferer; from the other children in the house who may be coming down with the disease; and from the soiled clothing too apt to be still about the premises. Newspaper notices of death from measles should state that the funeral is private. (Of course, those friends who have had measles need not be excluded.)

HOW CAN YOU HELP THE BOARD OF HEALTH
LOCATE MEASLES CASES?

("To find things, you must look for them.")

First of all, by insisting that all physicians report *all the cases they see* to the Board of Health.

Insist on this; and remember that this means insisting that your physician shall report *your case* and *your children's cases* if they are unfortunate enough to contract measles. Very often you may be very indignant if other people's physicians do not report the other people when they have measles, but still you do not like to have your physician report you, when you or yours are sick.

Second and still more important, help and support your Board of Health in following up the measles cases that are reported, and in tracing out the people from whom they caught it.

This is the most important step of all, for physicians are called to see only a very small part of the total number of persons who have measles, and so long as your Board of Health is expected to pay attention only to the cases which the physicians report, so long will the greater part of the measles cases run free. The Board of Health should isolate all the cases that are reported, but it should also trace out and follow up the unreported cases, which are usually far more numerous; otherwise the measles will continue to spread from the cases that are not reported, and the trouble and the bother that the reported cases undergo is largely wasted.

SUMMARY

WHAT THE MOTHER SHOULD DO. DO IT, MOTHER!

1. Take the sick child and its belongings into a darkened room, and keep out all others, especially children, cats, dogs, flies, etc.

2. Keep the other children at home.

3. Send for the doctor.

4. Avoid the other children yourself until the doctor comes; and avoid handling any food for others, particularly milk.

WHAT THE DOCTOR SHOULD DO. DO IT, DOCTOR!

1. Make the diagnosis, i. e., decide whether it is measles or not; and treat the patient.

2. Report to the Board of Health by phone, direct messenger, or postcard, *at once*.

3. Direct all the children to stay at home, but not with the patient, until the Board of Health investigates and decides what to do.

4. See to proper nursing; and to the care of the mother as well as of the child.

WHAT THE HEALTH OFFICER SHOULD DO. DO IT, HEALTH OFFICER!

1. Visit the house; list all the persons in it; find whether or not any have had measles; exclude from school, Sunday school, parties, moving picture shows or any other meeting place of children, all who have not had measles.

2. If milk or butter is sold from the house to neighbors, make instant arrangements to see that infection of this milk becomes impossible. Visit the customers also.

3. Arrange to visit or have the attending physician visit, the household daily; in order to examine the inmates for the detection of the first symptoms of any new cases and to see that isolation of the existing case is maintained.

4. Give certificates to all who have had measles permitting attendance at school, etc. (provided they do not see the patient, and provided they wash their face and hands immediately before leaving the house).

5. See that no suffering or deprivation results to the family on account of the isolation necessary to protect the community. It is the community that benefits by this watchfulness, and the community should pay for it. Arrange freedom for wage-earners, if possible.

6. Arrange for the milkman to pour his milk into a household receptacle set out for him; and forbid his entering the house or taking any bottles or other containers away with him.

7. Notify the principal of every school or Sunday school, etc., which any child from the house attends, of the exact condition of affairs, giving names of those who may attend school, etc., and of those excluded from school, etc.

8. By careful systematic enquiry, determine when the patient became infected (nine to ten days before the earliest symptoms); where the child was during that period; with whom the child associated, particularly its most intimate playmates.

9. Go to the playmates and examine them to detect any sign of existing or recent measles, not forgetting the adults of the same households.

10. Visit the school where the patient has attended and also the Sunday school class, if any; account for all absentees, and definitely determine (by examining every child) whether the school or the Sunday school is harboring infected children.

11. List all the cases of measles thus discovered; isolate all infected persons; see if they have a common milk supply, or date from any particular party or other entertainment.

12. *Remember*, that doing this once, for one case of measles, makes nothing but trouble, without progress in any direction; but doing it *every time, for every case*, means the total abolition of measles from the community.

13. *Remember*, that the physician sees only a small fraction of the total cases of measles; and without systematic search for and discovery of every case, mild, unrecognized and concealed, mere placarding of the small percentage seen by physicians is almost useless.

WHAT THE HOUSEHOLDER SHOULD DO. DO IT, HOUSEHOLDER!

1. Cooperate in good faith with the physician, Board of Health, and school authorities: notify the Board of Health of any suspicious cases in your own family even though you do not care to call a physician; notify the Board of Health of suspicious cases in neighbors' families; support the active, aggressive Board of Health in all its investigations; and take an active interest in entirely ridding the community of this as well as other infectious diseases which waste money, time, health and life without any return.

WHAT SCHOOL TEACHERS (INCLUDING SUNDAY SCHOOLS AND OTHER SCHOOLS) SHOULD DO. DO IT, TEACHER!

1. Watch carefully for children showing symptoms of severe cold, especially if the eyes are red; send for the principal at once. Don't simply send the child home but have the child examined, or notify the parents definitely about it. Better, have a medical supervisor of schools, and refer all suspicious cases to him.

2. Find out by enquiry (preferably through a school nurse if you have one) the reason for absence of children from school, especially if the absence is for more than a day or two at a time.

3. If there is any good reason to suspect any one child of having an infectious disease, look up all the brothers and sisters of the child who may be in other rooms of the same school, or in other schools, to see if they also are sick. If any one child is excluded on account of an infectious disease, the other children from the same household should not attend school unless they present certificates from the Board of Health to show that no danger exists from their so doing.

4. Keep the health officer posted on every suspicious case you encounter.

WHAT MILK DEALERS SHOULD DO. DO IT, MILK DEALER!

1. Guard against anyone who may have any infectious disease, or who comes from a family where there is any infectious disease, handling the milk at any stage from cow to consumer.

2. Make it a rule amongst your drivers that a driver must not enter a house or take a milk bottle or other container or tickets from a house where any infectious disease exists. In such cases he should pour the milk into a container set out by the consumer on the steps, without touching it or anything else connected with the house.

SOME COMMON QUESTIONS

QUESTION: *Is disinfection necessary after recovery from measles?*

ANSWER: Disinfection by filling the room with gas after the patient is well has been abandoned by the leading authorities; but disinfection while the patient is ill, of everything he puts his discharges on, is very essential (see p. 9).

QUESTION: *Should the schools be closed on account of measles?*

ANSWER: No, unless the Sunday schools, moving picture shows and all other meeting places of children are closed too. It is far better to keep the schools open. Eliminate all infected children and keep up daily supervision of those who attend, in order to detect the first symptoms of the disease.

QUESTION: *Is destruction of the child's toys, books, etc., after recovery necessary?*

ANSWER: No: although the toys or books should not go directly from the sick to the well; the germs die fast and simple disinfecting by washing with bichloride of mercury 1:1,000 is sufficient for toys to be used at once. Books set open in the sunlight for a day may be used with safety; or they may be exposed, well opened, to formaldehyd gas. The simplest safe thing to do with cheap toys, etc., is to burn them.

QUESTION: *May wage earners safely attend business from a house where measles exists?*

ANSWER: Yes, under proper conditions (see pages 3 and 12, par. 5).

QUESTION: *Is it worth while to send the sick child to the hospital?*

ANSWER: Certainly; if a well conducted contagious disease hospital is available that is the best place for the child; although in large homes with plenty of help and a trained nurse in attendance, the child may do well at home.

QUESTION: *May the grocer call at houses where measles exists?*

ANSWER: Yes; but he should not enter the house or take things away from it; merely receive his orders at the door and deliver the packages.

ONE LAST WORD

There are more than a million (probably 2 million) cases of measles every year in America—a million anxious fathers, a million overworked, sleepless, anxious mothers, a million suffering children, a million disorganized homes, thousands of school terms interrupted, thousands of dollars lost to individuals, thousands of dollars lost to the community.

More than this, 12,000 lives are sacrificed to this disease that should be only a name; 120,000 little lives are either destroyed, handicapped, or made miserable by the immediate after effects of this disease; and many more hundreds of thousands suffer in later life as adults from the “joke” of measles, early in life. How long will we, intelligent, progressive, foresighted, careful about so many things, continue to neglect our children?

THE CONDUCT OF AN ISOLATION PERIOD FOR COMMUNICABLE DISEASE IN A HOME.

(Courtesy of New York State Board of Health.)

In order to limit the spread of communicable disease it is of the utmost importance that the infectious agent should be destroyed as soon as it leaves the body.

Communicable diseases may be arranged in two groups. In the first group the infectious agent is generally confined to the discharges from the nose, throat, eyes, ears and suppurating glands. In the second group the infectious agent is found chiefly in the discharges of the bowels and urinary tract. With these facts in mind, the method of procedure for destroying the infectious agent is somewhat simplified, but in order to insure success the proper technique must be rigidly observed.

The list of communicable diseases belonging to the first group is the following: chickenpox, diphtheria, epidemic cerebrospinal meningitis, epidemic or streptococcus (septic) sore throat, measles, mumps, poliomyelitis, scarlet fever, smallpox, tuberculosis, whooping cough and influenza.

In the second group are typhoid fever, para-typhoid fever, dysentery and Asiatic cholera. Tuberculosis and poliomyelitis may fall in either group.

Directions to mother or nurse in caring for patient affected with chickenpox, diphtheria, epidemic cerebrospinal meningitis, epidemic or streptococcus (septic) sore throat, measles, mumps, poliomyelitis, scarlet fever, smallpox, influenza and whooping cough:

1. A room having good light and air, with an unfrequented approach, should be selected. Remove from the room the carpets, rugs, curtains, decorations, upholstered furniture, and all but a few toys of little value if patient is a young child. Kill all flies if present.

2. In addition to the bed and bedding, place in the room two plain tables and two plain chairs. Make provision for an abundance of boiling water. Provide a large slop pail with cover; two wash dishes; twelve towels, one at a time as needed. Provide at least three dozen squares of clean, old muslin or cheese cloth, 8 by 12 inches, for wiping discharges from nose and throat, eyes and ears. This cheese cloth can be purchased for 5 or 6 cents per yard. This should be boiled in water containing some washing soda, which renders the material sterile, soft and pliable. Two or three dozen pieces of gauze or muslin should be provided at a time. Where there is ample opportunity to burn materials, a supply of paper bags of proper size may be provided in which the soiled cloths may be placed for burning. Five per cent and $2\frac{1}{2}$ per cent carbolic acid and a supply of bichloride of mercury tablets, colored to avoid accidents, should be provided. Permit all the sunlight and air possible to enter the room, consistent with the comfort of the patient. If in fly season the windows must be screened.

3. The nurse must not leave the room occupied by the patient without first having washed her hands.

4. The nurse should at all times when caring for the patient wear rubber gloves and a special gown, which must be removed when she leaves the room. If she leaves the house she should also change her outer garments.

5. A fresh, clean gown and cap should always be kept hanging outside the door for the use of the physician.

6. The outer clothing of the patient should be fully exposed to air and sunlight for twenty-four hours and then thoroughly brushed in the open air. The underclothing should be boiled for from five to

ten minutes. Woolen garments must not be boiled or placed in a solution of bichloride of mercury, but in a 5 per cent solution of carbolic acid.

7. The sheets and pillow cases should be soaked in $2\frac{1}{2}$ per cent carbolic acid solution for one hour and boiled for twenty minutes in soapsuds solution before being washed.

8. The door knobs, bed railing and woodwork about the patient should be wiped daily with a cloth which has been wrung out in 1 to 1000 bichloride of mercury solution.

9. The dust should be removed from the room by means of damp cloths moistened with the bichloride solution and the cloths should afterward be washed. In case of accidental contamination of any subject or surface in the sick room by infective discharges, the discharges should be wiped up by cloths soaked in strong carbolic solution (5 per cent) and the contaminated surface covered with strong carbolic solution (5 per cent) for an hour.

10. Sputum, when in considerable quantity, should be received, if practicable, in paper cups, which, with their contents, may then be burned. If this is not practicable it may be received in ordinary cups containing the strong 5 per cent carbolic solution. When not in large quantities, sputum and other infective discharges from the mouth, throat and nose, and discharges from the eyes and ears should be received on cheap cloths or soft paper, and promptly burned. If handkerchiefs are used to receive infective discharges, they must be placed in a wash basin and covered with 5 per cent carbolic solution, or they may be boiled. After immersion for one hour in an abundant volume of the solution, handkerchiefs or other contaminated fabrics may be laundered. A fresh supply of clean cloths should always be available. The discharge from the bowels may be deposited in a toilet or privy vault as usual.

11. Thoroughly cooked foods and drinks which have been boiled for ten minutes are free from all disease germs. Remnants of food from the sick room should be burned; or, if more convenient, soaked for an hour in 5 per cent carbolic solution or in milk of lime.

12. Eating utensils, such as knives, forks, spoons, dishes, etc., used by a patient affected with a communicable disease should be reserved for him, and after use should either be boiled for ten minutes in soapsuds or washed first in 5 per cent carbolic solution, then in hot soapsuds, and rinsed in water.

13. A proper diet is essential in order to prevent serious complications; hence specific instructions should be obtained from the physician.

14. No person except those in charge of the patient should be permitted to enter the room during the isolation period. When the quarantine of a case of scarlet fever, smallpox or chickenpox is raised by the health officer, the person of the patient, including the entire body and hair, should be thoroughly washed with soap and water and clean clothing should be put on. The teeth must be brushed and an antiseptic gargle used for the throat, after which the patient may leave the room. If convenient the patient should dress in an adjoining room.

15. If the patient has been well cared for during the illness, fumigation of the room will usually be unnecessary, but the floors, woodwork and bedstead must be scrubbed with soap and hot water. The bedding must be put out of doors in the sunlight for several hours, and beaten to remove the dust. Soiled sheets and pillow cases must be treated as noted in paragraph 7. Toys and books should not be given to the patient if they can not be burned at the termination of the case. The health officer will determine and direct the method of procedure.